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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,482	01/29/2001	Jaap Andre Haitsma	NL000042	1675

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
KLIMACH, PAULA W	

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/772,482	HAITSMA ET AL.	
	Examiner	Art Unit	
	Paula W Klimach	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-8, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox (5,915,027).

In reference to claims 6 and 10, Cox discloses a system and method of extracting a watermark from a watermarked signal. The method includes generating a watermark as a series of watermark samples (column 9 lines 22-24); dividing the information signal samples into frames of a given length (column 9 lines 66-67); fourier transforming the frames into series of coefficients; calculating the magnitude of each coefficient; determining the correlation between a series of coefficient magnitudes and the series of watermark samples (column 10, lines 16-20 in combination with column 4 lines 54-65).

Cox discloses the detection results are provided (column 10 lines 25-26) therefore generating an indication signal if the correlation exceeds a predetermined threshold.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use generate a signal if the correlation exceeds a predetermined threshold. One of ordinary skill in the art would have been motivated to do this because the signal would indicate the results to the user.

In reference to claims 7 and 12, further comprising the step of accumulating said correlation for a number of frames prior to the step of generating the indication signal (column 9 lines 25-27).

In reference to claim 8, wherein said step of determining the correlation comprises determining the correlation between the series of coefficient magnitudes and a plurality of series of watermark samples, each series of watermark samples being a cyclically shifted version of a given series of watermark samples by an amount representing payload data; and further comprising the steps of: determining the series for which said correlation exceeds a given threshold; and decoding the corresponding cyclic shift into payload data (column 9 lines 21-30).

Claims 1-2, 5, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox in view of Luciano.

In reference to claims 1, 9 and 11, Cox discloses a system and method for inserting and extracting a watermark in to image, video, and audio data (abstract). The information signal is divided into frames of a given length (column 4 line 66 to column 5 line 9). A transform, such as the Fourier transform, is utilized to transform form the time domain to the frequency domain (column 4 lines 50-53). Finally, the watermarked data is produced by taking the inverse transform of the series of modified coefficients into modified signal frames (column 4 lines 64-65).

Although Cox discloses the processing of the watermark information before inserting it into the image data, Cox does not disclose modifying the magnitudes of said coefficients as a

function of the watermark samples, while leaving the phase of the coefficients substantially unchanged.

However Luciano discloses the decimation cipher used to multiplication to randomize the input data (Page 3 paragraph 2). The decimation of the watermark information randomizes the information as a result the magnitudes of said coefficients as a function of the watermark samples, while leaving the phase of the coefficients substantially unchanged.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the decimation cipher as in Luciano in the system of Cox. One of ordinary skill in the art would have been motivated to do this because without decimation the watermark would be localized, therefore decimation spreads the watermark in the watermarked

In reference to claim 2, wherein said modifying step includes multiplicatively adding each watermark sample to the corresponding coefficient.

Cox discloses adding the watermark sample to the corresponding coefficient (Fig. 1 step 16).

However Cox does not disclose multiplicatively adding the watermark.

However Luciano discloses the decimation cipher used to multiplication to randomize the input data (Page 3 paragraph 2). The decimation of the watermark information randomizes the information as a result the magnitudes of said coefficients as a function of the watermark samples, while leaving the phase of the coefficients substantially unchanged.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the decimation cipher as in Luciano in the system of Cox. One of ordinary skill in the art would have been motivated to do this because without decimation the watermark would be localized, therefore decimation spreads the watermark in the watermarked.

In reference to claim 5, further comprising the steps of: receiving payload data; cyclically shifting the series of watermark samples by an amount representing said payload data; wherein the step of modifying the magnitudes of the coefficients comprises modifying said magnitudes as a function of the shifted watermark samples (Fig. 1 part 15).

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox and Luciano as applied to claim 1 above, and further in view of Cox (5, 915, 027).

In reference to claim 3, Cox ('027) and Luciano do not disclose further including the step of weighting the watermark samples using respective weighting factors, said weighting factors being selected in accordance with a given human acoustic model. Cox uses weights α that are between the range of 0.1 and 0.01 as a function of perceptual modeling, which performs the function of weights being selected in accordance with a given human acoustic model.

However Cox ('155) disclose further including the step of weighting the watermark samples using respective weighting factors, said weighting factors being selected in accordance with a given human acoustic model. Cox uses weights α that are between the range of 0.1 and 0.01 as a function of perceptual modeling, which performs the function of weights being selected in accordance with a given human acoustic model (column 3 lines 30-38).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to weight the watermark samples according to a given human acoustic model. One of ordinary skill in the art would have been motivated to do this because it would reduce the perception of the watermark.

In reference to claim 4, Cox ('027) and Luciano do not disclose further comprising the step of scaling the series of modified coefficients to such an extent that the power of said modified coefficients is substantially equal to the power of the corresponding original coefficients.

Cox ('155) discloses further comprising the step of scaling the series of modified coefficients to such an extent that the power of said modified coefficients is substantially equal to the power of the corresponding original coefficients (column 3 line 30).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the coefficients such that the power of the modified coefficients is substantially equal to the power of the corresponding original coefficients. One of ordinary skill in the art would have been motivated to do this because it would reduce the perception of the watermark.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paula W Klimach whose telephone number is (703) 305-8421. The examiner can normally be reached on Mon to Thr 9:30 a.m to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PWK
Friday, September 03, 2004

KIM VU
PATENT EXAMINER
TECHNOLOGY CENTER 2100